P27159.A03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Huilong Zhu, et al.

Group Art Unit: 1765

Serial No. : 10/707,690

Examiner: David, VU

Filed: January 5, 2004

For : STRUCTURES AND METHODS FOR MAKING STRAINED MOSFETS

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Service Window, Mail Stop Amendment
Randolph Building
401 Dulany Street
Alexandria VA 22314

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56 and supplemental to the Information Disclosure Statements filed on filed on January 7, 2004 and August 23, 2005, applicant respectfully brings the following documents, listed on the attached form PTO-1449, to the attention of the Examiner in charge of the above-identified application.

Further to the U.S. Patent and Trademark Office's decision to waive the requirement under 37 C.F.R. § 1.98 (a)(2)(i), copies of the U.S. patents and U.S. published patent applications are not enclosed herewith. However, if any copies are needed, the Examiner is respectfully requested to contact the undersigned.

Applicant respectfully requests that the Examiner consider the materials cited and indicate such consideration by appropriately initialing the enclosed PTO-1449 Form and including a copy of the initialed form in the next official communication.

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Should there be any questions concerning this application, the Examiner is invited to contact the undersigned at the below listed telephone number.

Respectfully submitted, Huilong Zhu

Andrew M. Calderon Reg. No. 38,093

GREENBLUM & BERNSTEIN, P.L.C. 1950 Roland Clarke Place Reston, VA 20191 (703) 716-1191

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Atty. Docket No. Application No. FORM PTO-1449 U.S. Department of Commerce 10/707,690 FIS920030239US1 Patent and Trademark Office Applicant INFORMATION DISCLOSURE STATEMENT Huilong ZHU et al. BY APPLICANT (Use several sheets if necessary) Filing Date Group 01/05/2004 1765 U.S. PATENT DOCUMENTS **FILING DATE EXAMINER SUBCLASS** IF APPROPRIATE CLASS NAME DOCUMENT NUMBER DATE INITIAL 5-30-2002 Armstrong et al. US 2002/0063292 A1 2-13-2003 Yeh et al. US 2003/0032261 A1 2-27-2003 Saitoh US 2003/0040158 A1 Deshpande et al. US 2004/0238914 A1 12-2-2004 US 2004/0262784 A1 12-30-2004 Doris et al. Chidambarrao et al. 2-24-2005 US 2005/0040460 A1 Doris et al. 4-21-2005 US 2005/0082634 A1 5-5-2005 Doris et al. US 2005/0093030 A1 Doris et al. US 2005/0098829 A1 5-12-2005 5-19-2005 Doris et al. US 2005/0106799 A1 7-7-2005 Zhu et al. US 2005/0145954 A1 Doris et al. 7-7-2005 US 2005/0148146 A1 US 2005/0194699 A1 9-8-2005 Belyansky et al. US 2005/0236668 A1 10-27-2005 Zhu et al. 11-3-2005 Belyansky et al. US 2005/0245017 A1 US 2005/0280051 A1 12-22-2005 Chidambarrao et al. 12-22-2005 Belyansky et al. US 2005/0282325 A1 2-9-2006 Doris et al. US 2006/0027868 A1 US 2006/0057787 A1 3-16-2006 Doris et al. Doris et al. US 2006/0060925 A1 3-23-2006 Forbes et al. 6,483,171 11-19-2002 12-14-2004 Currie et al. 6,831,292 6,717,216 4-6-2004 Doris et al. 6,825,529 11-30-2004 Chidambarrao et al. 3-21-2006 Doris et al. 7,015,082 Chidambarrao et al. 12-13-2005 6,974,981 12-20-2005 Belyansky et al. 6,977,194 FOREIGN PATENT DOCUMENTS TRANSLATION COUNTRY **SUBCLASS** DOCUMENT NUMBER DATE CLASS YES NO

DATE CONSIDERED **EXAMINER** *EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Japan OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

3-22-1989

JP 64-76755

FORM PTO-1449		U.S. Department of Commerce Patent and Trademark Office			Atty. Docket No.			Application No.	
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FOREIGN PATENT DOCUMENTS									
		DOCUMENT NUMBER	DATE	<u> </u>	NTRY	CLASS	SUBCLASS		TRANSLATION YES NO
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)									
		G. Zhang, et al., "A New 'Mixed-Mode' Reliability Degradation Mechanism in Advanced Si and SiGe Bipolar Transistors." IEEE Transactions on Electron Devices, vol. 49, no. 12, December 2002, pp. 2151-56.							
		H.S. Momose, et al., "Temperature Dependence of Emitter-Base Reverse Stress Degradation and its Mechanism Analyzed by MOS Structures." 1989 IEEE, Paper 6.2, pp. 140-143.							
***************************************		C.J. Huang, et al., "Temperature Dependence and Post-Stress Recovery of Hot Electron Degradation Effects in Bipolar Transistors." IEEE 1991, Bipolar Circuits and Technology Meeting 7.5, pp. 170-173.							
		S.R. Sheng, et al., "Degradation and Recovery of SiGe HBTs Following Radiation and Hot-Carrier Stressing." pp. 14-15.							
		Z. Yang, et al., "Avalanche Current Induced Hot Carrier Degradation in 200 GHz SiGe Heterojunction Bipolar Transistors." pp. 1-5.							
		H. Li, et al., "Design of W-Band VCOs with High Output Power for Potential Application in 77 GHz Automotive Radar Systems." 2003, IEEE GaAs Digest, pp. 263-66.							
		H. Wurzer, et al., "Annealing of Degraded non-Transistors-Mechanisms and Modeling." IEEE Transactions on Electron Devices, vol. 41, no. 4, April 1994, pp. 533-38.							
		B. Doyle, et al., "Recovery of Hot-Carrier Damage in Reoxidized Nitrided Oxide MOSFETs." IEEE Electron Device Letters, vol. 13, no. 1, January 1992, pp. 38-40							
		H.S. Momose, et al. "Analysis of the Temperature Dependence of Hot-Carrier-Induced Degradation in Bipolar Transistors for Bi-CMOS." IEEE Transactions on Electron Devices, vol. 41, no. 6, June 1994, pp. 978-987.							
		M. Khater, et al., "SiGe HBT Technology with Fmax/Ft = 350/300 GHz and Gate Delay Below 3.3 ps". 2004 IEEE, 4 pages.							
		J.C. Bean, et al., "GEx SI 1-x/Si Strained-Layer Superlattice Grown by Molecular Beam Epitaxy". J. Vac. Sci. Technol. A 2(2), AprJune 1984, pp. 436-440.							
		J.H. Van Der Merwe, "Regular Articles". Journal of Applied Physics, Volume 34, No. 1, January 1963, pp. 117-122.							
A handwidth of Total		J.W. Matthews, et al., "Defects in Epitaxial Multilayers". Journal of Crystal Growth 27 (1974), pp. 118-125.							
		Subramanian S. Iyer, et al. "Heterojuction Bipolar Transistors Using Si-Ge Alloys". IEEE Transactions on Electron Devices, Vol. 36, No. 10, October 1989, pp. 2043-2064							
		R.H.M. Van De Leur, et al., "Critical Thickness for Pseudomorphic Growth of Si/Ge Alloys and Superlattices". J. Appl. Phys. 64 (6), 15 September 1988, pp. 3043-3050							
		D.C. Houghton, et al., "Equilibrium Critical Thickness for SI 1-x GEx Strained Layers on (100) Si". Appl. Phys. Lett. 56 (5), 29 January 1990, pp. 460-462							
		Q. Quyang et al., "Two-Dimensional Bandgap Engineering in a Novel Si/SiGe pMOSFET with Enhanced Device Performance and Scalability". 2000, IEEE, pp. 151-154.							
EXAMINER DA					ATE CONSIDERED				
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conformance	and not c	considered. Include copy of this	s form with n	ext comm	inication to	applicant.			